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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,602	03/14/2004	Sea-Huang Lee	OTMP0065USA	2601

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NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER

KOVAL, MELISSA J

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/708,602	Applicant(s) LEE, SEA-HUANG	
	Examiner Melissa J. Koval	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-6 is/are rejected.
- 7) ☒ Claim(s) 2 and 7-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "helix" of claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 5 is objected to because of the following informalities: In claim 5, the phrase "arranged in helix" is grammatically incorrect. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 4 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyata et al. U.S. Patent 6,601,959 B2.

See Figures 1A and 1B of Miyata et al.

Claim 1 sets forth: "An optical projection module, comprising:

a front optical module (Rotating frame 14.);

a rear optical module, located at one end of the front optical module (See fixed frame 12.) ; and

an adjustment member, mounted between the front optical module and the rear optical module for adjusting a relative position of the front and rear optical modules (See idle gear 50 provided on rotating frame 14 and rotating ring 44, holding plate 42 and annular fulcrum shaft 46.)."

Claim 3 sets forth: "The optical projection module of claim 1, wherein the front optical module includes a light valve (DMD 20) and a projection lens (projection optical system 22)."

Claim 4 sets forth: "The optical projection module of claim 1, wherein the rear optical module includes a light module (light source 28), an integrated rod (rod integrator 30) and a color wheel (color wheel 36)."

Claim 6 sets forth: "The optical projection module of claim 1, wherein the front optical module (rotating frame 14) further includes a light valve (DMD 20), and the rear optical module (fixed frame 12) further includes a light module to provide light beams, the light beams being clearly projected on the light valve by adjusting the relative position of the front optical module and rear optical module using the adjustment member." See the SUMMARY OF THE INVENTION, column 2, lines 43 through 67, and column 3, lines 1 and 2, for example.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyata et al. U.S. Patent 6,601,959 B2, further in view of De Vaan U.S. Patent U.S. 6,762,870 B2.

Claim 5 sets forth: "The optical projection module of claim 4, wherein the color wheel includes red, green and blue color filters arranged in helix."

Miyata et al. '959 B2 discloses color wheel 36, "configured by fitting filters of red (R), green (G) and blue (B) to a disk". See column 4, lines 36 through 41. However, Miyata et al. do not specify that the arrangement of the color filters on the disk forms a helix.

Spiral or helix shaped color filter arrangements on a color wheel are well known in the art as shown in Figures 3 and 4 of De Vaan, for example. Furthermore, in the embodiment of the spiral-shaped filter wheel discussed with respect to Figure 9, in column 7, lines 7 through 39, the molecular helix of the cholesteric layers of the second red and blue filter portions are discussed.

Allowable Subject Matter

Claims 2 and 7 through 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Each and every limitation of dependent claims 2 and 7 through 10 renders those claims allowable over the prior art of record.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tzong et al. U.S. Patent 6,805,451 B1 teaches a horizontal/vertical dual-mode LCD projector.

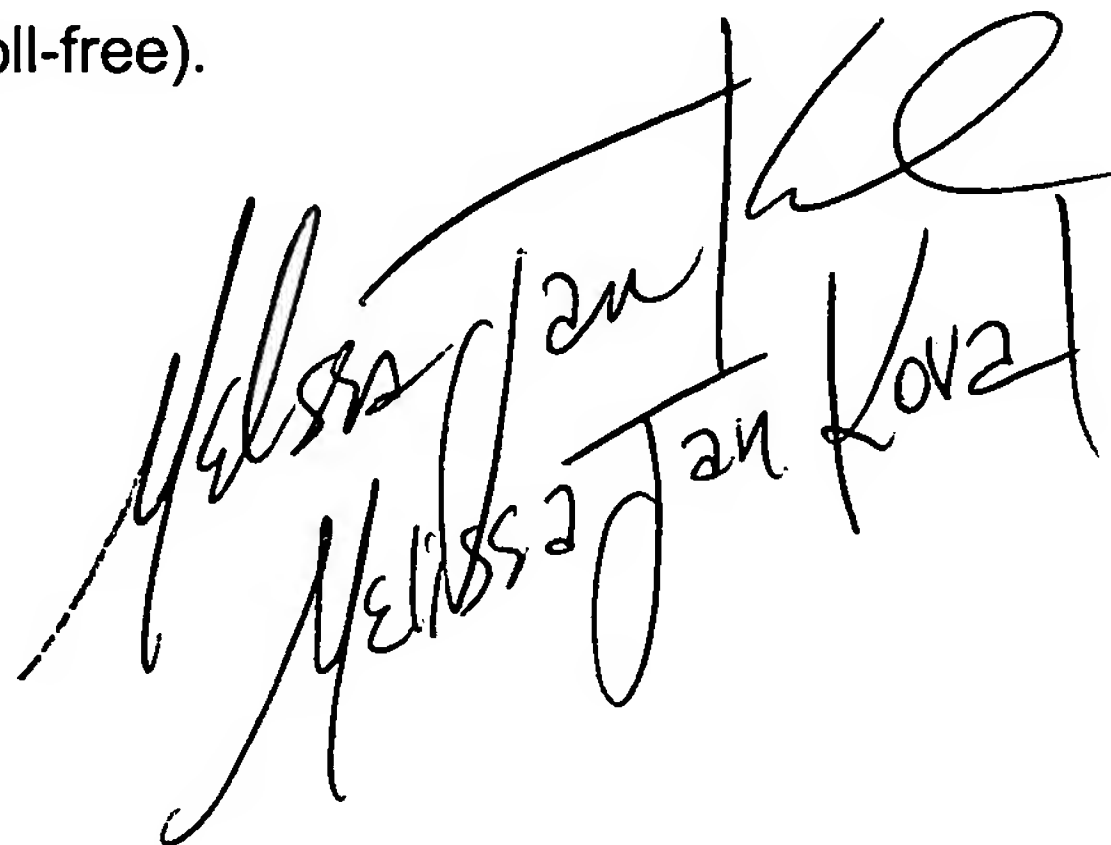
Ueda U.S. Patent 6,508,556 B1 teaches a projection display apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J. Koval whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJK

Handwritten signature of Melissa J. Koval, with the name "Melissa J. Koval" written in a stylized, cursive script.